VOLUME 6 1985

SUBJECT INDEX

Acetylcholine, 337
  aging
  cerebral cortex
  phosphatidylcholine
  phosphatidylserine
Acetylcholinesterase, 269
  age differences
  cholinergic neurons
Age differences
  acetylcholinestrase, 269
  cerebral cortex, 277
  cholinergic neurons, 269
  neurochemical changes, 277
  radial maze, 219
  spatial memory, 219
  strain differences, 277
Aged brain, 131
  Alzheimer's disease
  behavioral performance
  grafts, fetal
  grafts, peripheral nervous system
  neural transplants
  neuroblastoma cell line
  neuroendocrine deficits
  Parkinson's disease
Aging
  acetylcholine, 337
  Alzheimer's disease, 35
  amnesia, 51
  anesthetics, 117
  anterior pituitary, 101
  calcium uptake, 297
  capillaries, 39
  cardiovascular regulation, 47
  catecholamines, 117, 227
  caudate nucleus, 245
  cortical coupling, 193
  cerebellar afferent inputs, 89
  cerebral cortex, 337
  cyclic AMP, 35
  3,4-diaminopyridine, 297
  dietary choline, 51
  dietary restriction, 199
  drinking, 57
  drug induced hypothermia, 121
  β-endorphin, 1, 101
  enkephalin, 1
  estrogen, 107
  exercise, 17
  frontal neocortex, 245
  hippocampus, 29
  human studies, 35, 193, 293
  hypothalamus, 113, 205, 213, 309
  inhibition, 193
  insomnia, 293
  in vitro studies, 101
  lesions, septal, 241
  LHRH, 113, 309
  locomotor activity, 17
  lordosis, 241
  memory, 11, 17, 51
  muscarinic binding, 199
  neurochemistry, 199
  neurotransmitter synthesis, 227
  norepinephrine, 89, 113
  nucleus of the trapezoid body, 39
  osmotic challenge, 57
  ovariectomy, 309
  passive avoidance, 11, 17
  phosphatidylcholine, 337
  phosphatidylserine, 11, 337
  pituitary tumors, 107
  power spectral analysis, 193
  psychomotor task performance, 11
  Purkinje cells, 89
  senescence, 57
  serotonergic synaptic neurochemistry, 213
  serotonin, 107
  serum estradiol level, 241
  skin fibroblasts, 35
  spontaneous single unit activity, 245
  strain differences, 29, 57, 121
  stress, 47
  superior olive, 39
  sympathetic ganglia, 227
  sympathetic nervous system, 47
  synaptic density, 29
  thermoregulation, 121
  transplants, 205
  triazolam, 293
  vasopressin, 1
Alzheimer's disease
  aged brain, 131
  aging, 35
  behavioral performance, 131
  cholinergic hypothesis, 287
  cyclic AMP, 35
  DNA alterations, 25
  grafts, fetal, 131
  grafts, peripheral nervous system, 131
  human studies, 25, 35
  naltrexone, 233
  neural transplants, 131
  neuroblastoma cell line, 131
  neuroendocrine deficits, 131
  Parkinson's disease, 131
  plasma cortisol, 233
  recognition memory, 287
  skin fibroblasts, 35
Amnesia, 51
  aging
  dietary choline
  memory
Anesthetics, 117
  aging
  catecholamines
Anterior pituitary, 101
  aging
  β-endorphin
  in vitro aging
Behavioral performance, 131
  aged brain
  Alzheimer's disease
  grafts, fetal
  grafts, peripheral nervous system
  neural transplants
  neuroblastoma cell line
  neuroendocrine deficits
  Parkinson's disease
Brain
  anterior pituitary, 101
  brainstem, 1
  caudate nucleus, 245
  cerebellum, 199
  cerebral cortex, 199, 277, 337
  cortex, 1, 25
  dendrites, 205
  diagonal band of Broca, 269
  dopamine-β-hydroxylase, 227
  frontal neocortex, 245
  hippocampus, 1, 29, 199
  hypothalamus, 1, 113, 205, 213, 305, 309
  magnocellular preoptic area, 269
  neurointermediate lobe, 101
  nucleus basalis magnocellularis, 325
  nucleus basalis of Meynert, 125, 269
  nucleus of the trapezoid body, 39
  pituitary, 1
  striatum, 1, 199
  substantia innominata, 269
  superior olive, 39
  supraoptic nucleus, 205
Calcium uptake, 297
  aging
  3,4-diaminopyridine
Calmodulin, 305
  hypothalamus
  reproductive senescence
  tubulin
Capillaries, 39
  aging
  nucleus of the trapezoid body
  superior olive
Cardiovascular regulation, 47
  aging
  stress
  sympathetic nervous system
Catecholamines
  aging, 117, 227
  anesthetics, 117

neurotransmitter synthesis, 227
sympathetic ganglia, 227
Caudate nucleus, 245
aging
frontal neocortex
spontaneous single unit activity
Cerebellar afferent inputs, 89
aging
norepinephrine
Purkinje cells
Cerebral cortex
acetylcholine, 337
age differences, 277
aging, 337
neurochemical changes, 277
phosphatidylcholine, 337
phosphatidylserine, 337
strain differences, 277
Cholinergic hypothesis, 287
Alzheimer's disease
recognition memory
Cholinergic neurons, 269
acetylcholinesterase
age differences
Cholinergic neurotransmission, 317
memory deficits
muscarinic receptors
Cholinergic system, 125
lesions, nucleus basalis of Meynert
memory
passive avoidance
Cortical coupling, 193
aging
human studies
inhibition
power spectral analysis
Cyclic AMP, 35
aging
Alzheimer disease
human studies
skin fibroblasts

Dementia, 95
human studies
memory
vasopressin
3,4-Diaminopyridine, 297
aging
calcium uptake
Dietary choline, 51
aging
amnesia
memory
Dietary restriction, 199
aging
muscarinic binding
neurochemistry
DNA alterations, 25
Alzheimer's disease
human studies
Drinking, 57
aging
osmotic challenge
senescence
strain differences
Drug
acetylcholine, 199
anisomycin, 51
apomorphine, 121
choline acetyltransferase, 51, 227
3,4-diaminopyridine, 297
dopamine, 113
epinephrine, 35
L-glutamic acid decarboxylase, 199
halothane, 117
ibotenic acid, 125
isoprenaline, 57
kynurenic acid, 325, 331
naltrexone, 233
oxotremorine, 121
phosphatidylserine, 11, 337
quinolinic acid, 325, 331
serotonin, 113
[^{3}H]-spiperone, 213
triazolam, 293
tyrosine, hydroxylase, 199, 227
Drug induced hypothermia, 121
aging
strain differences
thermoregulation

β-Endorphin
aging, 1, 101
anterior pituitary, 101
enkephalin, 1
in vitro studies, 101
vasopressin, 1
Enkephalin, 1
aging
β-endorphin
vasopressin
Estrogen, 107
aging
pituitary tumors
serotonin
Exercise, 17
aging, 17
locomotor activity
memory
passive avoidance

Frontal neocortex, 245
aging
caudate nucleus
spontaneous single unit activity

Grafts, fetal, 131
aged brain
Alzheimer's disease
behavioral performance
grafts, peripheral nervous system
neural transplants
neuroblastoma cell line
neuroendocrine deficits
Parkinson's disease
Grafts, peripheral nervous system, 131
aged brain
Alzheimer's disease
behavioral performance
grafts, fetal
neural transplants
neuroblastoma cell line
neuroendocrine deficits
Parkinson's disease

High affinity choline uptake, 331
kynurenic acid
morphology
neurotoxicity
quinolinic acid
Hippocampus, 29
aging
strain differences
synaptic density
Hormone
estradiol benzoate, 241
estrogen, 107
testosterone, 113
Human studies
aging, 35, 193, 293
Alzheimer's disease, 25, 35
cortical coupling, 193
cyclic AMP, 35
dementia, 95
DNA alterations, 25
inhibition, 193
insomnia, 293
memory, 95
power spectral analysis, 193
skin fibroblasts, 35
triazolam, 293
vasopressin, 95
Hypothalamus
aging, 113, 205, 213, 309
calmodulin, 305
LHRH, 309
luteinizing hormone-releasing hormone, 113
norepinephrine, 113
ovariectomy, 309
reproductive senescence, 305
serotonergic synaptic neurochemistry, 213
transplants, 205
tubulin, 305

Inhibition, 193
aging
cortical coupling
human studies
power spectral analysis
Insomnia, 293
aging
human studies
triazolam
In vitro studies, 101
aging
anterior pituitary
β-endorphin

Kynurenic acid, 331
high affinity choline uptake
morphology
neurotoxicity
quinolinic acid

Lesions, nucleus basalis magnocellularis, 325
morphology
neurotoxicity
Lesions, nucleus basalis of Meynert, 125
cholinergic system
memory
passive avoidance
Lesions, septal, 241
aging
lordosis
serum estradiol level
LHRH, 309
aging

hypothalamus
ovariectomy
Locomotor activity, 17
aging
exercise
memory
passive avoidance
Lordosis, 241
aging
lesions, septal
serum estradiol level
Luteinizing hormone-releasing hormone, 113
aging
hypothalamus
norepinephrine

Memory
aging, 11, 17, 51
amnesia, 51
cholinergic system, 125
dementia, 95
dietary choline, 51
exercise, 17
human studies, 95
lesions, nucleus basalis of Meynert, 125
locomotor activity, 17
passive avoidance, 11, 17, 125
phosphatidylserine, 11
psychomotor task performance, 11
vasopressin, 95
Memory deficits, 317
cholinergic neurotransmission
muscarinic receptors
Mesenteric artery, 237
mesenteric vein
primary afferent neurons
Mesenteric vein, 237
mesenteric artery
primary afferent neurons
substance P
Method
agarose gel electrophoresis, 25
chromatographic analysis, 101
HPLC, 25
laminar analysis, 245
power spectral analysis, 193
radioimmunoassay, 237
Token test, 233
Morphology
high affinity choline uptake, 331
kynurenic acid, 331
lesions, nucleus basalis magnocellularis, 325
neurotoxicity, 325, 331
quinolinic acid, 331
Muscarinic binding, 199
aging
dietary restriction
neurochemistry
Muscarinic receptors, 317
cholinergic neurotransmission
memory deficits

Naltrexone, 233
Alzheimer's disease
plasma cortisol
Neural transplants, 131
aged brain
Alzheimer's disease
behavioral performance
grafts, fetal
grafts, peripheral nervous system
neuroblastoma cell line
neuroendocrine deficits
Parkinson's disease
Neuroblastoma cell line, 131
aged brain
Alzheimer's disease
behavioral performance
grafts, fetal
grafts, peripheral nervous system
neural transplants
neuroendocrine deficits
Parkinson's disease
Neurochemical changes, 277
age differences
cerebral cortex
strain differences
Neurochemistry, 199
aging
dietary restriction
muscarinic binding
Neuroendocrine deficits, 131
aged brain
Alzheimer's disease
behavioral performance
grafts, fetal
grafts, peripheral nervous system
neural transplants
neuroblastoma cell line
Parkinson's disease
Neurotoxicity
high affinity choline uptake, 331
kynurenic acid, 331
lesions, nucleus basalis magnocellularis, 325
morphology, 325, 331
quinolinic acid, 331
Neurotransmitter synthesis, 227
aging
catecholamines
sympathetic ganglia
Norepinephrine
aging, 89, 113
cerebellar afferent inputs, 89
hypothalamus, 113
luteinizing hormone-releasing hormone, 113
Purkinje cells, 89
Nucleus of the trapezoid body, 39
aging
capillaries
superior olive

Osmotic challenge, 57
aging
drinking
senescence
strain differences
Ovariectomy, 309
aging
hypothalamus
LHRH

Parkinson's disease, 131
aged brain
Alzheimer's disease
behavioral performance
grafts, fetal
grafts, peripheral nervous system
neural transplants
neuroblastoma cell line
neuroendocrine deficits
Passive avoidance
aging, 11, 17
cholinergic system, 125
exercise, 17
lesions, nucleus basalis of Meynert, 125
locomotor activity, 17
memory, 11, 17, 125
phosphatidylserine, 11
psychomotor task performance, 11
Peptide
desglycinamide-9-arginine-8-vasopressin-8-vasopressin, 95
β-endorphin, 1,101
enkephalin, 1
LHRH, 309
luteinizing hormone-releasing hormone, 113
vasopressin, 1
Phosphatidylcholine, 337
acetylcholine
aging
cerebral cortex
phosphatidylserine
Phosphatidylserine
acetylcholine, 337
aging, 11, 337
cerebral cortex, 337
memory, 11
passive avoidance, 11
phosphatidylcholine, 337
psychomotor task performance, 11
Pituitary tumors, 107
aging
estrogen
serotonin
Plasma cortisol, 233
Alzheimer's disease
naltrexone
Power spectral analysis, 193
aging
cortical coupling
human studies
inhibition
Primary afferent neurons, 237
mesenteric artery
mesenteric vein
substance P
Psychomotor task performance, 11
aging
memory
passive avoidance
phosphatidylserine
Purkinje cells, 89
aging
cerebellar afferent inputs
norepinephrine

Quinolinic acid, 331
high affinity choline uptake
kynurenic acid
morphology
neurotoxicity

Radial maze, 219
age differences

spatial memory
Recognition memory, 287
Alzheimer's disease
cholinergic hypothesis
Reproductive senescence, 305
calmodulin
hypothalamus
tubulin

Senescence, 57
aging
drinking
osmotic challenge
strain differences
Serotonergic synaptic neurochemistry, 213
aging
hypothalamus
Serotonin, 107
aging
estrogen
pituitary tumors
Serum estradiol level, 241
aging
lesions, septal
lordosis
Skin fibroblasts, 35
aging
Alzheimer's disease
cyclic AMP
human studies
Spatial memory, 219
age differences
radial maze
Spontaneous single unit activity, 245
aging
caudate nucleus
frontal neocortex
Strain differences
age differences, 277
aging, 29, 57, 121
cerebral cortex, 277
drinking, 57
drug induced hypothermia, 121
hippocampus, 29
neurochemical changes, 277
osmotic challenge, 57
senescence, 57
synaptic density, 29
thermoregulation, 121
Stress, 47
aging
cardiovascular regulation
sympathetic nervous system
Substance P, 237
mesenteric artery
mesenteric vein
primary afferent neurons
Superior olive, 39
aging
capillaries
nucleus of the trapezoid body
Sympathetic ganglia, 227
aging
catecholamines
neurotransmitter synthesis
Sympathetic nervous system, 47
aging
cardiovascular regulation
stress
Synaptic density, 29
aging
hippocampus
strain differences

Thermoregulation, 121
aging
drug induced hypothermia
strain differences
Transplants, 205
aging
hypothalamus
Triazolam, 293
aging
human studies
insomnia
Tubulin, 305
calmodulin
hypothalamus
reproductive senescence

Vasopressin
aging, 1
dementia, 95
β-endorphin, 1
enkephalin, 1
human studies, 95
memory, 95

AUTHOR INDEX

Albrecht, R. F., 117
Altman, H. J., 125
Anderson, K. J., 29

Bartus, R. T., 11
Bass, N. H., 277
Beatty, W. W., 219
Beninger, R. J., 325, 331
Bennett, E. L., 51
Berger, P. A., 95
Berman, R. F., 125
Bickford, P. C., 89
Bierley, R. A., 219
Björklund, A., 163
Boegman, R. J., 325, 331
Boyd, J. G., 219
Bridges, R. S., 309
Buell, S. J., 269

Casey, M. A., 39
Caulfield, M., 61
Chesky, J. A., 175
Cohn, N. B., 193
Coleman, P. D., 205, 269
Collier, T. J., 131, 173
Coloma, F., 325
Cooper, R. L., 107
Cordasco, D. M., 317
Corwin, J., 11
Critchett, D. J., 317
Crosland, R. D., 125

Davis, K. L., 166
Dean, R. L., III, 11, 249
Dean, W., 175
DeKosky, S. T., 29, 277
Delaney, C., 17
De Paolo, L. V., 113
Duckles, S. P., 237
Dunlap, W. P., 17
Dunwiddie, T. V., 162
Durham, L., 17
Dustman, R. E., 193

El-Defrawy, S. R., 325, 331
Elkind-Hirsch, K., 309
Ellis, A. T., 199

Feldman, M. L., 39
Finch, C. E., 1, 156, 305
Fliers, E., 341
Flood, D. G., 205, 269
Forman, L. J., 101
Freed, W. J., 153
Freedman, R., 89
Fuchs, A., 57, 121

Gage, F. H., 163
Gash, D. M., 131, 173, 205
Gershon, S., 233
Gibson, G. E., 297
Giovannelli, L., 337
Giovannini, M. G., 337
Greene, L., 35

Hackney, C. G., 277
Harbaugh, R. E., 164
Haroutunian, V., 166
Hart, S. A., 287
Harting, J., 57, 121
Hervonen, A., 227
Hoffer, B. J., 89, 162
Hoffman, W. E., 117
Hornberger, J. C., 269

Ingram, D. K., 199

Jenden, D. J., 125
Jhamandas, K., 325, 331
Johnson, J. A., 17
Joseph, J. A., 317

Kaplan, A. S., 205
Katzman, R., 152
Kornberg, A., 25

LaMarche, J. A., 193
Lee, L. R., 241
LeVere, N. D., 151
LeVere, T. E., 151
Lippa, A. S., 317
London, E. D., 199, 227
Loullis, C. C., 317
Ludwin, S. K., 331

McCarty, R., 47
McNeill, T. H., 269

Mann, D. M. A., 160
Markesbery, W. R., 213
Marquis, D., 101
Martin, J. R., 57, 121
May, P. C., 305
Miletich, D. J., 117
Miller, T. P., 95
Mirmiran, M., 341
Mizumori, S. J. Y., 51
Morgan, D. G., 1
Morgane, P. J., 245
Moss, M. B., 168

Nicholls, D. G., 297

Ordy, J. M., 17

Partanen, M., 227
Patterson, T. A., 51
Peabody, C. A., 95
Pedata, F., 337
Peng, M. T., 241
Pepeu, G., 337
Peterson, C., 297
Pigache, R., 95
Pomara, N., 233
Pontecorvo, M. J., 249
Pugh, W. W., 245

Rhiew, H. B., 233
Roberts, R., 233
Roehrs, T., 293

Rogers, J., 1, 169
Rosene, D. L., 168
Rosenzweig, M. R., 51
Roth, T., 293
Rotrosen, J., 11, 317
Rubin, B. S., 309

Samorajski, T., 17
Scheff, S. W., 29, 277
Seals, C., 117
Shearer, D. E., 193
Shepherd, A. M., 113
Shoemaker, W. J., 1
Simon, M. L., 169
Sinex, F. M., 35
Sladek, J. R., Jr., 131, 173
Slevin, J. T., 213
Smith, C. M., 61, 287
Sparks, D. L., 213
Spector, R., 25
Spignoli, G., 337
Stanley, M., 233
Steger, R. W., 113
Stein, D. G., 157
Stern, W. C., 245
Sternberg, H., 51
Stevens, R., 101
Swaab, D. F., 341
Swash, M., 287

Talone, J. M., 193
Thiemann, S., 95
Timiras, P. S., 51
Tinklenberg, J. R., 95

Van Gool, W. A., 341
Van Haaren, F., 341
Volicer, L., 35

Walker, R. F., 107
Waller, S. B., 199, 227
Watkins, D. L., 11
Wirsching, B. A., 325
Wittig, R., 293

Yesavage, J., 95
Yu, J. Y. L., 241
Zorick, F., 293
Zornetzer, S. F., 169